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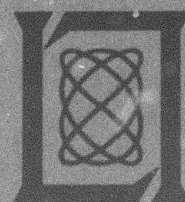
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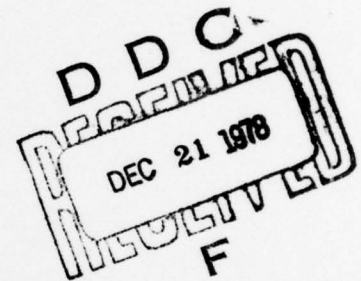
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This technical report has been reviewed and is approved for publication.

FOR THE COMMANDER

Raymond L. Loiselle

Raymond L. Loiselle, Lt. Col., USAF
Chief, ESD Lincoln Laboratory Project Office

FOREWORD

Volume 6 of Unclassified Publications of Lincoln Laboratory lists reports published from 15 December 1975 to 15 December 1977, as well as updated information on earlier publications.

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QUARTERLY TECHNICAL SUMMARIES

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15 February 1976	AD-A023869/1	15 February 1977	AD-A040124/0
15 May 1976	AD-A028041/2	15 May 1977	AD-A043276/5
15 August 1976	AD-A032343/6	15 August 1977	AD-A047274
15 November 1976	AD-A036733/4	15 November 1977	AD-A050552

DEVELOPMENT OF A DISCRETE ADDRESS BEACON SYSTEM

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1 January 1976	AD-A023065/6	1 January 1977	AD-A037130/2
1 April 1976	AD-A027265/8	1 April 1977	AD-A041089/4
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15 January 1976	AD-B010608-L	15 January 1977	AD-B018632-L
15 April 1976	AD-B011597-L	15 April 1977	AD-B020830-L
15 July 1976	AD-B013447-L	15 July 1977	AD-B021489-L
15 October 1976	AD-B016019-L	15 October 1977	AD-B023784-L

SPACE COMMUNICATIONS

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30 June 1975	AD-A021239/9	30 September 1976	AD-A045455/3
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	<u>DDC No.</u>		<u>DDC No.</u>
15 September 1966	AD-803845	15 December 1973	AD-778085/1
15 September 1969	AD-863031	15 December 1975	AD-A028523/9
15 September 1971	AD-734038		

TECHNICAL REPORTS

<u>TR No.</u>				<u>DDC No.</u>
516	Random Variables as a Data Type	A. G. Nemeth	13 May 1976	AD-A026452/3
517	The Application of Linear Prediction to Sequential Classification of Radar Target Signatures	C. W. Therrien	25 Mar. 1976	AD-A026695/7
518	Low Elevation Angle Measurement Limitations Imposed by the Troposphere: An Analysis of Scintillation Observations Made at Haystack and Millstone	R. K. Crane	18 May 1976	AD-A031575/4
522	Millstone Hill Thomson Scatter Results for 1970	J. V. Evans J. M. Holt	11 May 1976	
523	Acoustic Characteristics of Stop Consonants: A Controlled Study	V. W. Zue	17 May 1976	AD-A034600/7
524	Theory and Operating Characteristics of TRAPATT Amplifiers	R. W. Laton G. I. Haddad M. I. Grace	26 Jan. 1977	AD-B020021-L
525	Store-and-Forward Computer Communications Over Noisy Channels	D. J. Leinweber	2 Dec. 1977	AD-A051053

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1976-1	Second Order Detection Statistics for Fluctuating Targets	D. H. Pruslin	30 Jan. 1976	AD-B009986-L
1976-2	Mechanics of Proposed UHF Antenna System Towed in Various Sea States	E. C. Kern S. E. Forman	12 Jan. 1976	AD-B009119-L
1976-3	Radar Observations of the Deployment of LES-8 and 9	G. P. Banner G. L. Guernsey A. F. Pensa C. B. Slade L. B. Spence R. Sridharan	1 Dec. 1976	AD-B016602-L
1976-4	DVT Diagnostic System	R. I. Tucker M. Daniel	19 July 1976	AD-A029413/2
1976-5	A Slender Resonator-Slot UHF Antenna Capable of Integration into a Submarine-Towed Cable	J. C. Lee	7 Jan. 1976	AD-B009034-L
1976-6	Robust Speech Processing	B. Gold	27 Jan. 1976	AD-A021899/0
1976-7	Optimum Classification of Voiced Speech, Unvoiced Speech and Silence in the Presence of Noise and Interference	R. J. McAulay	3 June 1976	AD-A028518/9
1976-8	Note on Cumulant Expansions in Rummler Processing of Radar Returns	R. W. Davies N. E. Lindgren	14 July 1976	AD-A029883/6
1976-9	Predicted and Measured Detection Capabilities of the Lincoln ETS, Photon-Noise-Limited, Electro-Optical Systems	R. Weber	26 Apr. 1976	AD-A025859/0
1976-10	Simulation of a Narrow Bandpass-Limited Satellite Channel	B. E. White	28 July 1976	AD-A030411
1976-11	Optimum Elevation Angle Estimation in the Presence of Ground Reflection Multipath	R. J. McAulay	9 Feb. 1976	AD-A023247/0
1976-12	The Handling of Star Catalogs: The Transformations of Positions and Proper Motions	L. G. Taff	17 Feb. 1976	AD-A023248/8
1976-13	The Detection Capabilities of Gallium Arsenide and S-20 Photo-Multiplier Tubes to GO-Type, Point-Source, Signals	R. Weber	3 Mar. 1976	AD-A023818/8

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1976-15	Shunt Regulator Design for LES-8/9	A. R. Millner	5 Mar. 1976	AD-A023819/6
1976-16	Estimates of Wake Mean Velocity, Velocity Spread, and Velocity Distribution Asymmetry from Pulse Pair Correlation Measurements	N. E. Lindgren	18 Mar. 1976	AD-B012704-L
1976-18	Adaptive Nulling with Multiple-Beam Antennas	J. T. Mayhan	30 Sept. 1976	AD-A034652/8
1976-19	10.6 μ m Coherent Monopulse Tracking Interim Results	R. Teoste W. J. Scouler	7 May 1976	AD-A027209/6
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1976-22	Properties of Matched and Mismatched Kalman Filters	M. Athans D. Willner	26 Apr. 1976	AD-A027225/2
1976-24	Performance Evaluation of the Lincoln Laboratory Time Sharing System	J. R. Walton	7 May 1976	AD-A026366/5
1976-25	Computer Software for the Navy K-Band Satellite Communications Terminal	D. A. McNeill	24 May 1976	AD-A027220/3
1976-28	Adaptive Estimation and Parameter Identification Using Multiple Model Estimation Algorithm	M. Athans C. B. Chang	23 June 1976	AD-A028510/6
1976-29	A Terminal Access Control System for FLEETSAT	J. D. Bridwell	22 Nov. 1976	AD-A034813/6
1976-31	Post-Launch RTG Performance Aboard LES-8/9	E. E. Landsman	20 July 1976	AD-B012828-L
1976-32	A Numerical Study of Eigenvalue Computation	I. T. Young	18 Nov. 1976	AD-A036716/9
1976-33	A Class of Threshold Decodable Block Codes	B. Reiffen	23 July 1976	AD-A029895/0
1976-34	Circular Polarization Scattering Coefficients for the Bistatic Scattering of Electromagnetic Waves from Perfectly Conducting Spheres	R. A. Ross G. N. Cohen	27 July 1976	AD-A030043/4

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1976-37	Microprocessor Realization of a Linear Predictive Vocoder	E. M. Hofstetter J. Tierney O. C. Wheeler	30 Sept. 1976	AD-A033686/7
1976-37 Suppl. 1	Microprocessor Realization of a Linear Predictive Vocoder	E. M. Hofstetter J. Tierney O. C. Wheeler	7 Feb. 1977	AD-A038241/6
1976-38	A Summary of Methods for Producing Nulls in an Antenna Radiation Pattern	L. J. Ricardi	2 Sept. 1976	AD-A032340/2
1976-39	Optimum Speech Classifica- tion and Its Application to Adaptive Noise Cancellation	R. J. McAulay	9 Nov. 1976	AD-A036324/2
1976-41, Vol. I	Analysis of UHF MILSATCOM Architecture Alternatives, Volume I: General System Considerations	H. M. Heggstad	26 Oct. 1976	AD-B015281-L
1976-42	Automatic Reporting of Height (AROH) Design and Trade-Off Studies	L. Cartledge M. Labitt C-S. Lin	1 Nov. 1976	AD-A035316/9
1976-45	Behavior of a Link in a PVC Network	A. G. Nemeth	7 Dec. 1976	AD-A036370/5
1977-1	Development of a New ICES Executive for the IBM/370 CMS and VS Operating Systems	B. Schumacker	11 Jan. 1977	AD-A037487/6
1977-2	Astrometry in Small Fields	L. G. Taff	14 June 1977	AD-A043568/5
1977-3	Input Buffer Designs for a Radar Signal Processor	A. H. Huntoon	20 Jan. 1977	AD-A037120/3
1977-4	Satellite-to-Satellite Data Transfer and Control	D. M. Snider D. B. Coomber	19 Jan. 1977	AD-A041323/7
1977-5	Real Time Harmonic Pitch Detector	S. Seneff	26 Jan. 1977	AD-A038542/7
1977-7	Waveform and Clutter Filter Design for a Satellite-Borne Bistatic Radar for Aircraft Detection	R. A. Goundry C. J. Kurys	28 June 1977	AD-A044309/3
1977-8	A Wideband Waveguide Lens	A. R. Dion	2 Feb. 1977	AD-A038541/9
1977-10	The Firepond Kalman Filter	S. F. Catalano	4 Feb. 1977	AD-A040131/5
1977-11	An ECL Gate Array Realiza- tion of a Computer for Real Time Speech Synthesis	R. Berger	7 Mar. 1977	AD-A039179/7

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1977-13	The Lincoln Terminal System (LTS-5) A Brief Description	R. C. Butman	28 Dec. 1977	AD-A048692/8
1977-14	A Survey of Solid-State Microwave Power Devices	P. W. Staecker D. F. Peterson	29 Apr. 1977	AD-A041202/3
1977-15	A Maximum Likelihood Weapon Location Algorithm for Use With Projectile Tracking Radars	M. E. Austin E. T. Bayliss	21 July 1977	AD-B022299-L
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1977-17	Finite Element Capabilities in M.I.T. Lincoln Laboratory Version of STRUDL	S. S. Britten	30 Sept. 1977	AD-A048605/0
1977-18	Photoemissive and Electro-emissive Surfaces and Sandwiches	R. Weber	25 May 1977	AD-A042431/7
1977-19	Spatial Acquisition in Optical Space Communications	A. A. Braga-Illa H. M. Heggstad E. V. Hoversten J. T. Lynch	6 Sept. 1977	AD-A046581/5
1977-20	A General-Purpose Cross-Assembler for Producing Absolute Binary Object Code	P. R. Kretz	6 Apr. 1977	AD-A040553/0
1977-22	A Time Diversity Coding Experiment for a UHF/VHF Satellite Channel with Scintillation: Equipment Description	D. P. White	1 Sept. 1977	AD-A047102
1977-23	Airborne Radars for Surveillance and Weapon Delivery	C. E. Muehe	15 July 1977	AD-A044069/3
1977-24	Station Magnitude Bias - Its Determination, Causes, and Effects	R. G. North	29 Apr. 1977	AD-A041643/8
1977-25	On the Accuracy of the Positions of Celestial Objects Determined from a Linear Model	L. G. Taff	22 Dec. 1977	AD-A050565
1977-27	The Application of the Cramer-Rao Bound to Estimates of Radar Return Time-of-Arrival for Several Target Configurations	C. B. Chang R. W. Miller	23 May 1977	AD-A042751/8
1977-28	Baseline Link Calculation for Optical Broadcasting Through Water	R. M. Lerner	2 June 1977	AD-A042569/4
1977-29	System Design Study for Infra-red Airborne Radar (IRAR)	R. J. Becherer	18 Oct. 1977	AD-A048979/9

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1977-30	An Attitude Control System for a Large Geosynchronous Earth-Pointing Satellite	J. R. Vernau	5 July 1977	AD-A044822
1977-31	The Amplitude Effect of Point-Source Blooming as a Function of Background Level in Ebsicon-Type Camera Tubes	R. Weber	16 June 1977	AD-A043277/3
1977-32	An Electro Optical MTI System for the Detection of Artificial Satellites (the NITH Finder)	G. T. Flynn	27 June 1977	AD-A048055/8
1977-33	A Digital Microprocessor Channel Vocoder	J. Gorski-Popiel	10 Aug. 1977	AD-A045079/1
1977-34	Theory of the Effects of Pulsed RFI on Coded Communication	S. L. Bernstein	22 July 1977	AD-A044070/1
1977-35	Design, Test and Performance of a UHF Floating Slender-Slot Antenna	J. C. Lee L. S. Metzger	30 Dec. 1977	AD-B025257-L
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1977-37	Measurements of Voice and Data Queue Behavior in a PVC Network Link	P. Demko	25 Aug. 1977	AD-A047101
1977-39	Design for High Accuracy Critical-Angle Sun Transit Sensor	N. R. Trudeau B. Howland	20 Oct. 1977	AD-A048287/7
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1977-43	Orbit Prediction Errors Resulting from Vertical Misalignment of a Radar Antenna	A. Freed	15 Dec. 1977	AD-A050161
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| 4353 | Brillouin Scattering in Semiconductors | A. S. Pine | Chapter 6 in <u>Topics in Applied Physics, Volume 8: Light Scattering in Solids</u> , M. Cardona, Ed. (Springer-Verlag, Heidelberg, 1975), pp. 253-273 |
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| 4365 | Determination of the Three-Dimensional Seismic Structure of the Lithosphere | K. Aki
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| 4482 | Spectra of Ionospheric Scintillation | R. K. Crane | J. Geophys. Res. <u>81</u> , 2041 (1976), DDC AD-A029282/1 |
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4501	A Transistor Design for High f_T at Low Currents	P. Greiff	IEEE Trans. Electron Devices ED-23, 343 (1976), DDC AD-A027007/4
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